

# **Project Title**

## **Book Store Management System**

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## Introduction

A Book Store Management System is a software application designed to automate the operations of a bookstore. Traditional bookshops often depend on manual processes for managing inventory, sales, billing, and customer information—leading to errors, delays, and inefficiency. This project aims to develop a computerized system that simplifies book record-keeping, improves accuracy, and enhances customer service.



## Objectives

- The main objectives of the system are:
- To digitize and automate daily operations of a bookstore.
- To maintain accurate records of books, categories, stock levels, and suppliers.
- To provide quick search options for books based on title, author, ISBN, or category.
- To handle customer billing and generate invoices.
- To keep track of sales, purchases, and inventory updates.
- To reduce workload and improve productivity.

# Project Category

## **Application Development using Java & MySQL**

### Problem in Existing System

- ♣ The current manual system involves:
- ♣ Physical registers for stock and sales.
- ♣ Manual invoice generation.
- ♣ Difficulty in tracking stock and frequently sold books.
- ♣ High chances of human error.
- ♣ Time-consuming data retrieval.

This leads to inefficiency, mismanagement, and customer dissatisfaction.

### Proposed System

The proposed computerized system offers:

- Centralized database for books, customers, and sales.
- Automated billing and inventory updates.
- Quick search and filter options.
- User authentication (Admin/Staff).
- Low maintenance cost.

- Easy generation of reports—daily, weekly, monthly.

## **Modules Description**

### **1. Admin Module**

The Admin Module is the central control system of the bookstore management application. It provides administrative users with full access to manage core functionalities, users, and system configurations.

Key Features:

a. Manage Users (Add/Edit/Delete Staff)

- Allows the administrator to create new user accounts for staff.
- Staff roles can be assigned (e.g., Cashier, Sales Staff, Manager).
- Admin can modify user details such as username, password, and access roles.
- Inactive or unauthorized staff can be removed or disabled.
- Ensures secure login and activity tracking.

b. Manage Categories and Suppliers

- Admin can create and maintain book categories such as Fiction, Science, Technology, Kids, etc.
- Supplier details—name, contact, address—can be added and updated.
- Categories help in organizing books across the system.
- Supplier management supports better coordination for restocking.

c. Generate Reports

- Admin can generate different types of business reports.

- Reports include sales performance, stock summary, best-selling books, etc.
- Reports can be exported (PDF/Excel) depending on system implementation.
- Helps in decision-making and business analysis.

## **2. Book Management Module**

The Book Management Module is responsible for maintaining the complete catalog of books in the inventory. It helps keep stock information updated and organized.

Key Features:

a. Add / Update / Delete Books

- Enter book details such as title, author, category, ISBN, price, publisher.
- Update book information when price or availability changes.
- Remove discontinued or outdated books from inventory.

b. Track Stock Levels

- Shows real-time stock quantities for each book.
- Automatically reduces stock after a sale is completed.
- Helps avoid overstocking or understocking.

c. Manage Book Categories and Authors

- Admin or staff can assign books to appropriate categories.
- Author information can be added and linked to books.
- Helps with advanced search and filtering of books for both staff and customers.

### **3. Sales/Billing Module**

The Sales/Billing module handles customer transactions, bill generation, and stock adjustments.

Key Features:

a. Create Invoices

- Staff can add selected books to the billing cart.
- Automatically calculates book price, tax, quantity, and final total.
- Generates invoice/bill which can be printed or saved digitally.

b. Update Stock Automatically After Sales

- Each sale reduces the corresponding book's stock count.
- Prevents manual errors in stock management.
- Alerts are generated when stock reaches low levels.

c. Apply Discounts

- Allows staff to apply percentage-based or amount-based discounts.
- Supports seasonal/ festival/ promotional discounts.
- Discount details appear on the invoice.

### **4. Customer Module**

The Customer Management module stores and manages customer-related data for billing and marketing purposes.

Key Features:

#### a. Store Customer Information

- Stores customer details like name, phone, email, address.
- Used during billing or for returning customers.
- Useful for customer loyalty programs or personalized recommendations.

#### b. View Purchase History

- Shows all previous purchases of a customer.
- Helps in handling returns, complaints, or re-orders.
- Supports customer behavior analysis and targeted promotions.

## 5. Reports Module

This module provides detailed analytical reports for ensuring smooth business operations and growth insights.

Key Features:

#### a. Sales Report

- Displays daily, weekly, monthly, or yearly sales trends.
- Helps identify peak sales season.
- Shows total revenue, number of invoices, and top-performing staff.

#### b. Stock Report

- Shows current stock levels for all books.
- Highlights books that need replenishment.
- Helps manage inventory efficiently.

#### c. Fast-Moving Books

- Identifies books with high demand and rapid sales.
- Helps prioritize reordering and supplier negotiations.
- Useful for planning promotions or stocking popular titles.

#### d. Low-Stock Alerts

- Generates alerts when stock falls below a set threshold.
- Ensures timely restocking.
- Prevents the loss of sales due to unavailable books.

## **Database Design (8 Tables)**

### **1. USERS TABLE**

Column	Type	Constraints	Description
user_id	INT	PK, AUTO_INCREMENT	Unique User ID
username	VARCHAR(100)	NOT NULL, UNIQUE	Login Username
password	VARCHAR(255)	NOT NULL	Encrypted Password
role	ENUM('Admin','Staff' )	NOT NULL	User Role

### **2. CATEGORY TABLE**

Column	Type	Constraints
category_id	VARCHAR(100)	PK, AUTO_INCREMENT
category_name	VARCHAR(150)	NOT NULL

### **3. AUTHOR TABLE**

Column	Type	Constraints
author_id	VARCHAR(100)	PK, AUTO_INCREMENT
author_name	VARCHAR(200)	NOT NULL

### **4. SUPPLIER TABLE**

Column	Type	Constraints
supplier_id	INT	PK, AUTO_INCREMENT
supplier_name	VARCHAR(200)	NOT NULL
contact	VARCHAR(20)	NULL
email	VARCHAR(150)	NULL

### **5. BOOK TABLE**

Column	Type	Constraints
book_id	VARCHAR(100)	PK, AUTO_INCREMENT
title	VARCHAR(300)	NOT NULL
isbn	VARCHAR(30)	UNIQUE
price	DECIMAL(10,2)	NOT NULL
stock_qty	INT	NOT NULL
category_id	VARCHAR(100)	FK → category(category_id)
author_id	VARCHAR(100)	FK → author(author_id)
supplier_id	INT	FK → supplier(supplier_id)

## 6. CUSTOMER TABLE

Column	Type	Constraints
customer_id	VARCHAR(50)	PK, AUTO_INCREMENT
customer_name	VARCHAR(200)	NOT NULL
phone	VARCHAR(20)	NULL
email	VARCHAR(150)	NULL

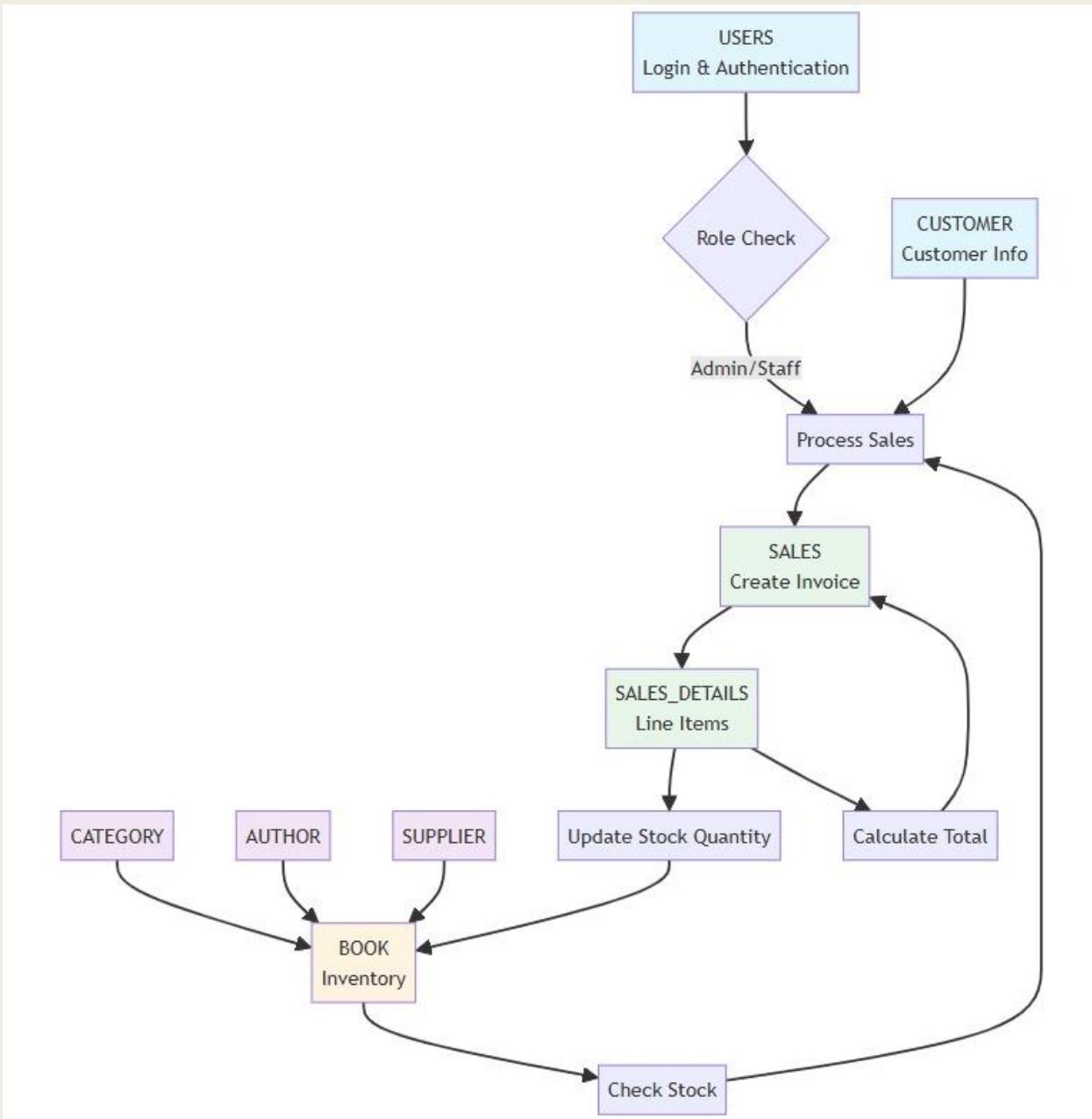
## 7. SALES TABLE

Column	Type	Constraints
invoice_id	INT	PK, AUTO_INCREMENT
customer_id	INT	FK → customer(customer_id)
user_id	INT	FK → users(user_id)
date	DATETIME	NOT NULL
total_amount	DECIMAL(10,2)	NOT NULL

## 8. SALES\_DETAILS TABLE

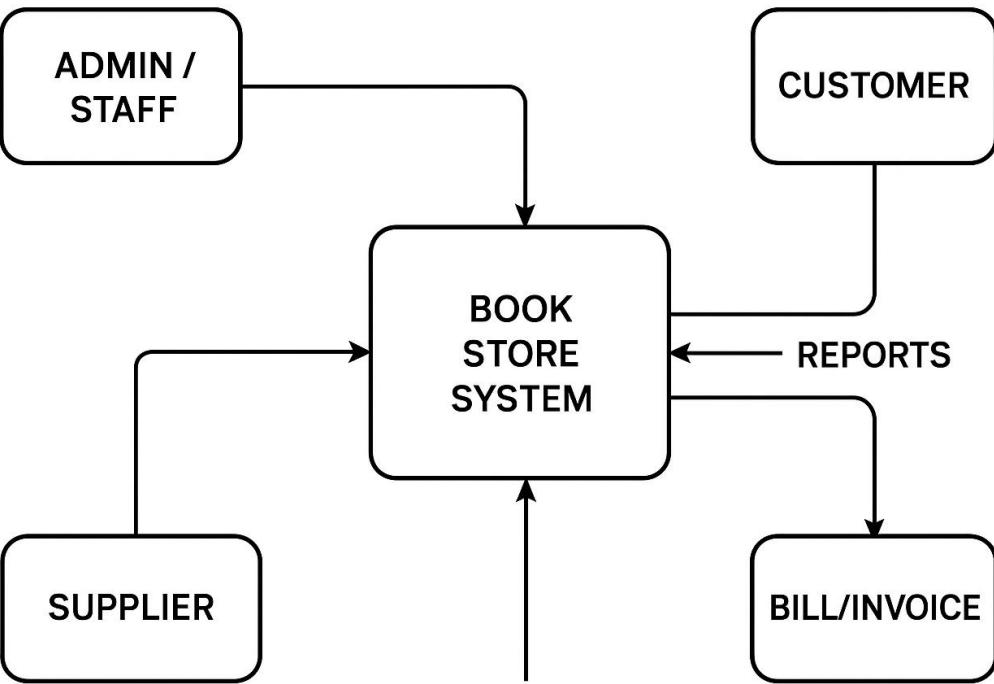
Column	Type	Constraints
sales_detail_id	INT	PK, AUTO_INCREMENT
invoice_id	INT	FK → sales(invoice_id)
book_id	VARCHAR(100)	FK → book(book_id)
quantity	INT	NOT NULL
price	DECIMAL(10,2)	NOT NULL

## ER Diagram Overview

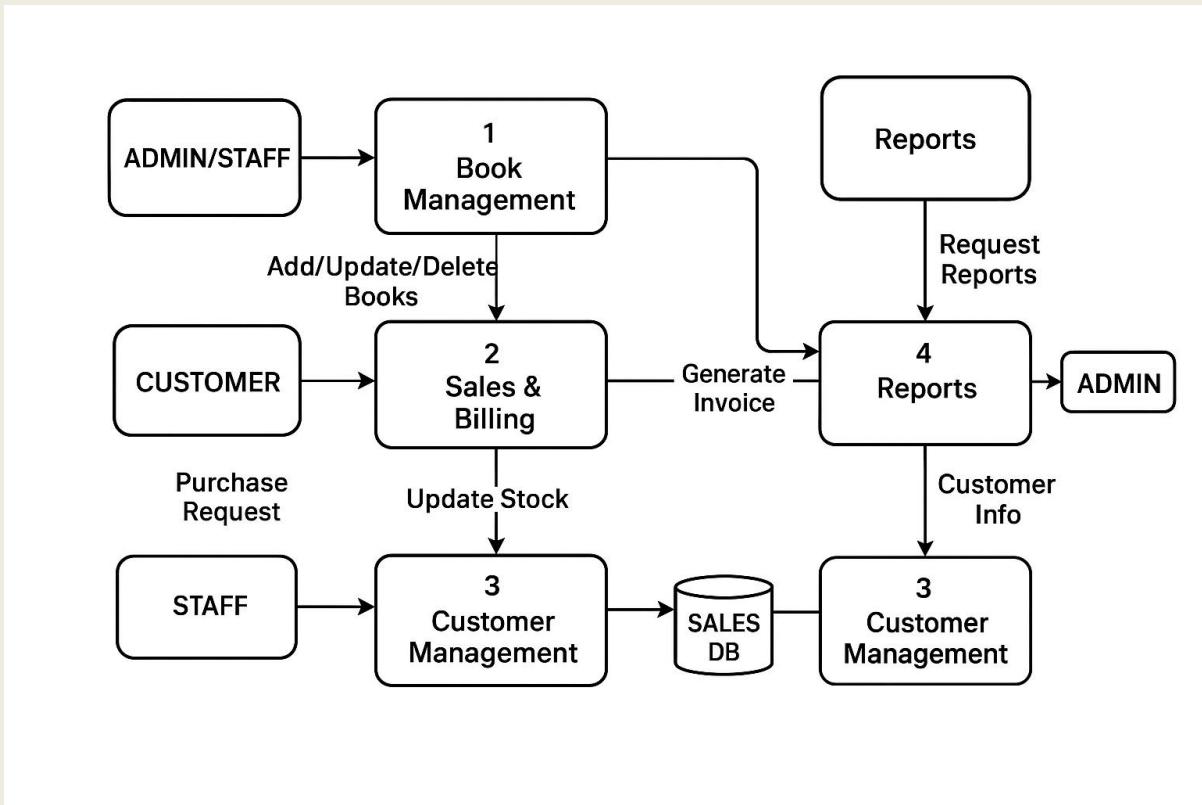


## Data Flow Diagram (DFD)

DFD Level 0:



**DFD Level 1:**



## Platform Used

### Hardware Requirements

- ♣ Intel processor
- ♣ 4 GB RAM
- ♣ 20 GB free disk space

### Software Requirements

- ♣ Windows 10/11
- ♣ Java JDK (17 or above)
- ♣ Eclipse IDE
- ♣ MySQL Server & MySQL Workbench
- ♣ JDBC Connector JAR

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## **Future Scope**

- ♣ The system will be used by:
  - ♣ Bookstore owners
  - ♣ Store managers
  - ♣ Staff members (sales/billing)
  - ♣ Admin/Back-office users

The project is suitable for **small and medium bookstores** and can later be upgraded to an online store or integrated with e-commerce platforms